



# Evaluating P3 Options: An Overview

---

**P3-VALUE**  
**Web-based Training Course**  
**May 2, 2013**



# Evaluating P3 Options: An Overview

---

## Today's Presenter

**Patrick DeCorla-Souza**

P3 Program Manager  
Office of Innovative Program Delivery



# P3-VALUE Webinars

---

- **P3:** Public Private Partnership
- **P3-VALUE:** Set of four integrated analytical tools to help practitioners understand processes used to quantitatively evaluate P3 options
- This is the first of four webinars on P3-VALUE
  - P3 Evaluation Overview (today)
  - Risk Assessment 201 (June 13)
  - Value for Money Analysis (July 11)
  - Financial Structuring and Assessment (August 7)



# Course Outline

---

- Lesson 1 Introduction to P3 Evaluation
- Lesson 2 P3 Financial Evaluation
- Lesson 3 Value for Money Analysis
- Lesson 4 FHWA's P3 Toolkit and P3-VALUE
- Summary

# Course Objectives

---

**After taking this course you should be able to:**

- Identify the purpose of P3 evaluation
- Describe the P3 evaluation process
- Identify the limitations of P3 evaluation
- Understand the role of the P3-VALUE suite of tools
- Access the tools and supporting information



# Lesson 1

---

## ***Introduction to P3 Evaluation***



# Project vs. Procurement Evaluation

---

## ■ Project Evaluation:

- Is the project worthwhile?
  - For society
  - For the public sponsor

## ■ Procurement Evaluation:

- Would P3 procurement add value relative to conventional procurement?
- Which of several P3 options would add most value?
- Would a particular procurement option (conventional or P3) have an impact on whether the project is worthwhile?



# Procurement Evaluation at Every Step

---

**Planning & Project Development**



**Procurement**



**Design, Build, Operate, and Handback**



# P3 Evaluation at Planning Stage

## Planning & Project Development

Is the project appropriate for a P3?

- Scale
- Long-term nature of service
- Complexity of risk profile
- Potential for innovation

What are the whole-life costs, and can they be reduced through integration of design, construction and operations?

Would a P3 add value?

If so, what type of P3 is best?

Is the project worthwhile for a private entity to deliver? How much subsidy would be required? Is it affordable?

# P3 Evaluation at the Procurement Stage

---

## Procurement

Does the *preferred bid* add value?

Does the *actual* P3 agreement add value?

# P3 Evaluation at the Implementation Stage

## Design & Construction

Has the anticipated value been realized at construction completion?



## Operation & Handback

Has the anticipated value been realized throughout the project's life?

# Quantitative P3 Evaluation

## ■ **Economic Efficiency Assessment:**

- Considers full range of costs and benefits to society
- May include financial elements, but some such elements may not be included, e.g., tolls
- Employs benefit-cost analysis (BCA)

## ■ **Financial Assessment:**

- Considers financial elements only, i.e., “cash flows”
- Focuses on “costs” side; “benefits” to society (e.g., travel time savings from accelerated project delivery) not assessed quantitatively
- Non-financial benefits are generally left to qualitative assessment
- Employs value-for-money (VfM) analysis and financial models

# Financial Evaluation Questions

---

- Is the project affordable to the public agency?
  - Financial feasibility analysis
- Will P3 procurement enhance the financial position of the public sponsor?
  - Value for Money (VfM) analysis
- Is the *dollar value* that the private entity offers (or is willing to accept) a good value for the viewpoint of the public agency?
  - Asset valuation (for “net revenue” projects)
  - Subsidy and availability payment valuation (for “net cost” projects)

# Financial Evaluation Approach

---

- Focus is on costs (i.e., only the denominator in BCA)
- Considers only cash flows over the project's life
- Perspective of balance sheet of the procuring agency
- Financial elements do not cover the full range of benefits or costs to society:
  - Benefits to users and non-users (e.g., from accelerated delivery)
  - External costs and benefits
- However, non-financial elements are often covered in qualitative assessment

# Economic Efficiency Questions

- Does the project yield benefits to society that exceed the costs to society?
  - Benefit-Cost analysis (BCA)
  - Generally conducted at the planning stage, i.e., before considering P3 option for procurement
  - “Costs” are based on conventional procurement
- Will a P3 option increase net benefits to society compared with conventional procurement?
  - Benefit-Cost analysis (BCA)
  - Would be conducted if answer to first question is “Yes”
  - P3 costs and benefits would be compared to conventional procurement costs and benefits
  - FHWA is conducting research to develop this approach



# Benefit-Cost Analysis (BCA) Approach

---

- Assessment of the full range of economic costs, risks and social benefits
  - Goes beyond procuring agency's perspective
- Considers externalities and user benefits
- Key questions answered by BCA:
  - Is a project a good use of society's (public) resources?
  - When should a project be undertaken?
  - What is the best project design alternative?
  - **What is the best procurement method from an economic perspective, i.e., considering the full range of social costs and benefits?**





# Evaluating a P3 Option: Summary

Question	Analysis Approach
What are the financial consequences of the procurement option from the perspective of the agency's financial position?	Financial (VfM)
Which procurement method is better from society's perspective?	Economic (BCA)*

\* FHWA research is underway to develop this approach



# P3 Evaluation Challenges

---

- Representing the conventional delivery option for comparison to P3
- Identifying and pricing risk
- Allocating risk to the party best able to handle it
- Predicting traffic and revenue
- Benefits to users from accelerated project delivery
- Sensitivity of results to key assumptions (e.g., discount rates)



# Test Your Knowledge

---

## True or False:

Financial evaluation considers the full range of costs and benefits to society.

## True or False:

Evaluation is needed at the planning stage only.

# Questions?

---

Submit a question using the chat box





## Lesson 2

---

# ***P3 Financial Evaluation***

# P3 Financial Evaluation Process

## 1. Preliminary Screening

- Apply high level preliminary screening criteria to all major capital investment projects

## 2. Detailed Evaluation

- Develop quantitative and qualitative VfM assessment and gauge competitive interest through market sounding

## 3. Final Decision

- Refine P3 contractual terms, revisit VfM analysis and evaluation as cost estimates are refined

# Purpose of Transparency

---

## **Benefits to public sector:**

- Offers legitimacy with facility users, elected officials and the general public

## **Benefits to private sector:**

- Makes process and rules of the game clear, builds confidence in reliability of getting to decision



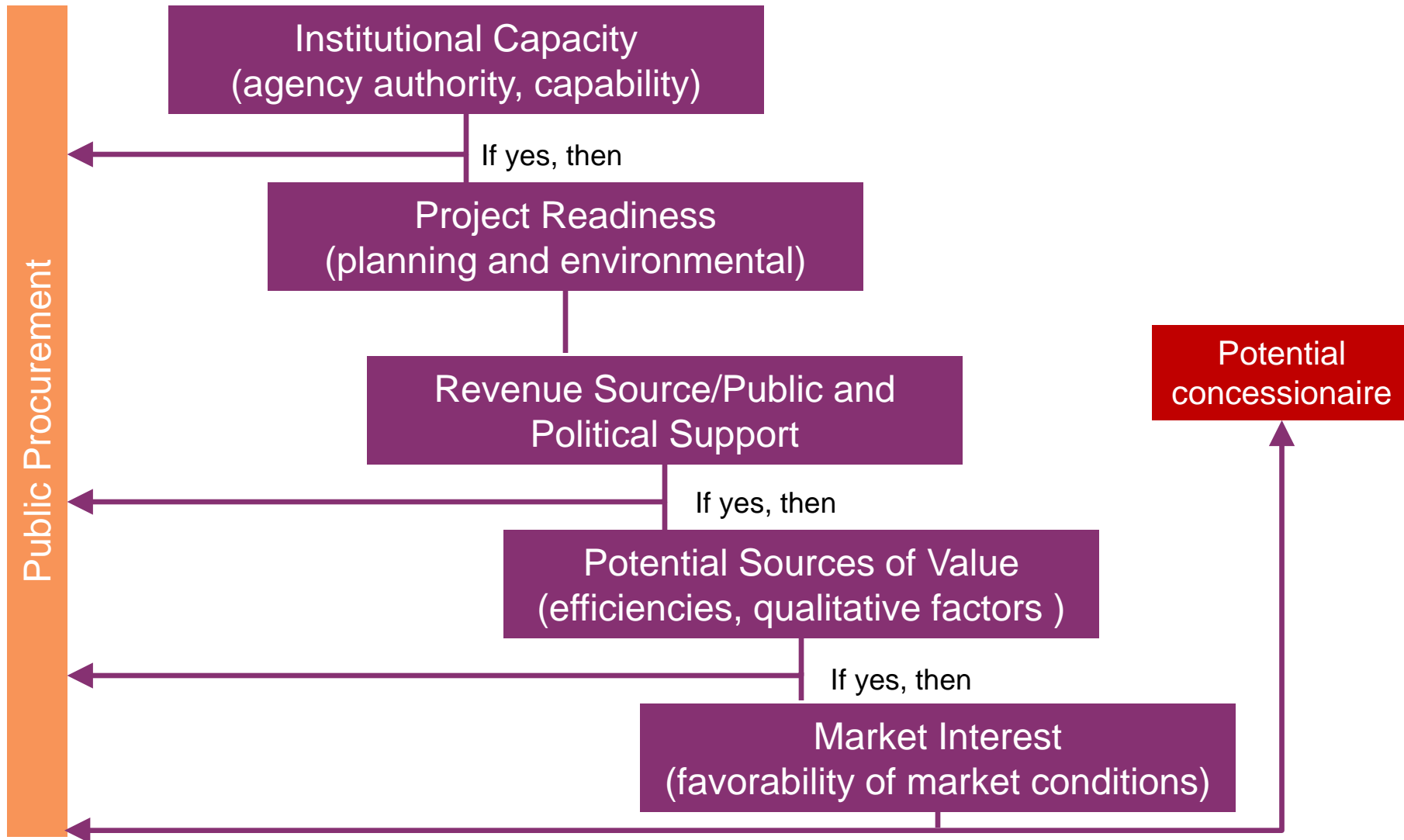
# Maintaining Transparency

---

- Establish process to review P3 proposals, incorporating transparency and public participation, e.g., VDOT process
- Be clear up-front about what type of information should remain confidential and provide an explanation as to why confidentiality is necessary during the proposal process.
- Temporary confidentiality could be balanced with full disclosure of selection criteria, scoring, and agreement terms



# 1. Preliminary Screening



# P3-SCREEN

- *P3-SCREEN* is a simplified P3 screening tool to assist in preliminary screening evaluation of the suitability of a highway project for a P3 option.
- Highlights key criteria and questions relevant to assessing the viability of delivering a highway project using a P3 approach.
- May be used in conjunction with the development of an Initial Financial Plan for major projects to assist in meeting the Federal requirements under *Moving Ahead for Progress in the 21<sup>st</sup> Century* (MAP-21).

# Key P3 Screening Questions

---

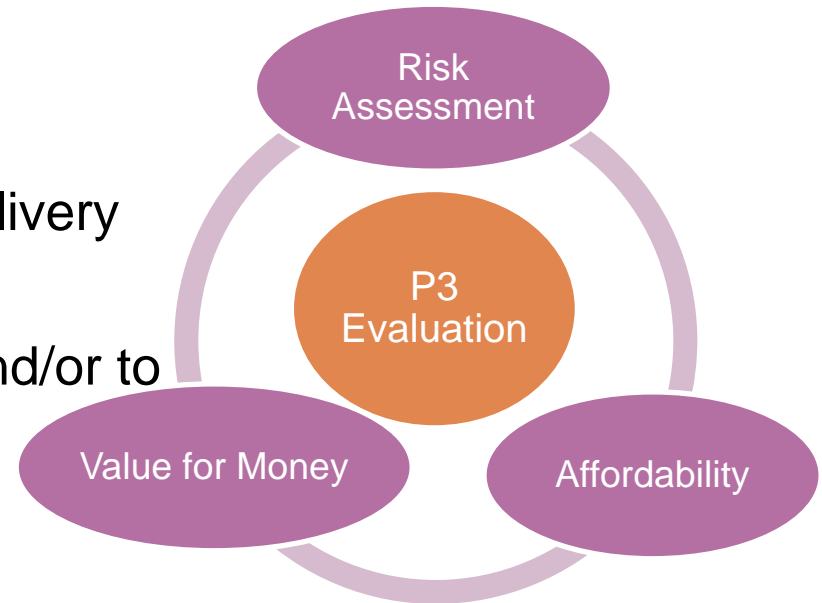
- **Legal Framework:** Is there the necessary legal and institutional framework in place to support a P3 arrangement?
- **Institutional Capacity:** Does the agency have the organizational capacity to deliver a P3?
- **Project Characteristics:** Does delivery of the project as a P3 represent a value proposition\* for the public sector?
- **Market Interest:** Are there a sufficient number of qualified bidders who are interested?

\* Value = cost and schedule efficiencies, innovation, budget certainty, accelerated delivery, etc.

## 2. Detailed Financial Evaluation

### ■ Evaluation:

- Traffic and revenue
- Cost estimates
- Risk assessment
- Comparison of P3 vs. public delivery (VfM)
- Affordability to public agency and/or to traveling public (i.e., for tolls)

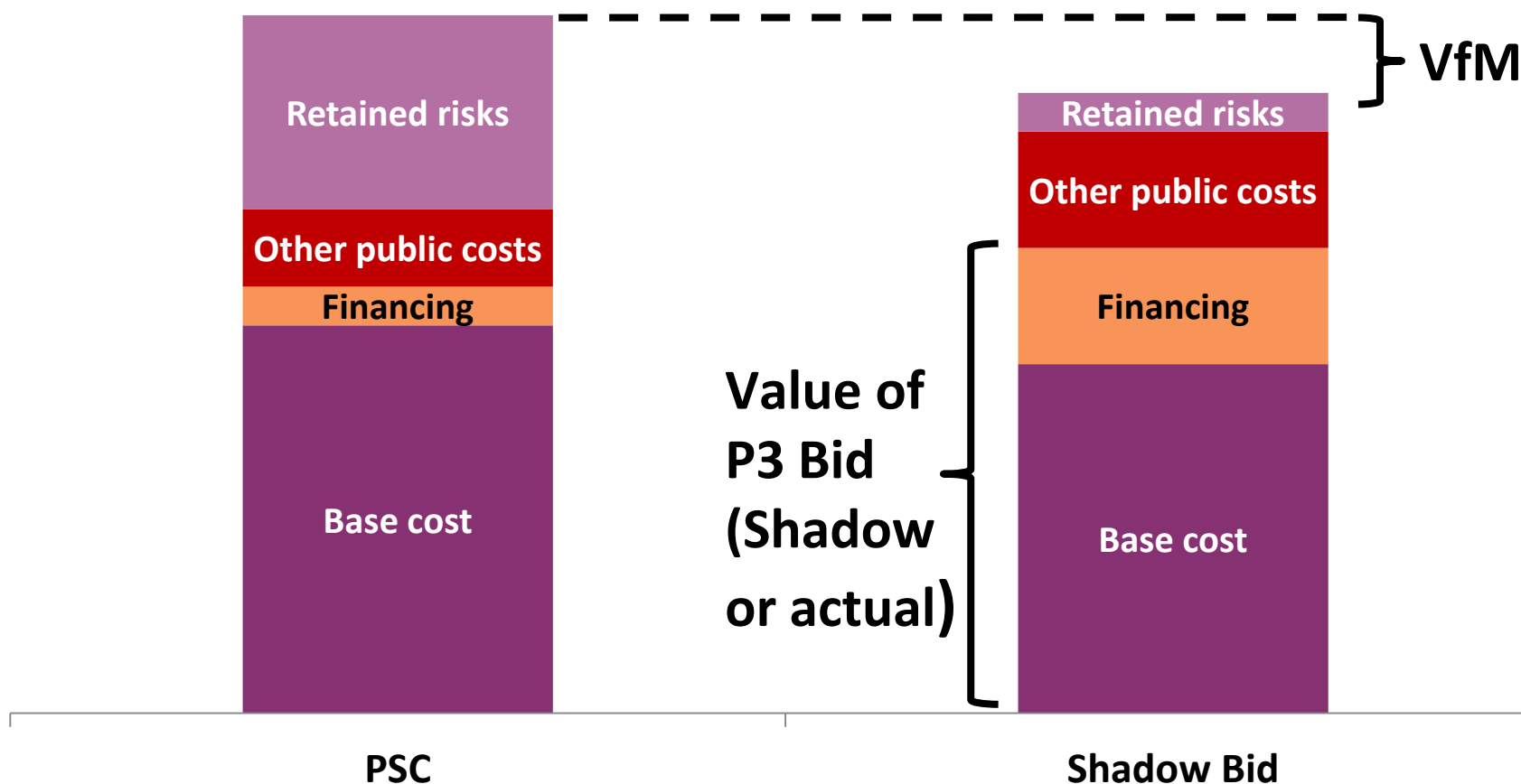


### ■ Market outreach:

- Market analysis
- Market outreach

### 3. Final Decision

Review the prior evaluation before RFP release and upon receipt of price proposals





# Test Your Knowledge

---

## True or False:

Value for Money analysis may be used to make a decision on whether to use a P3.

# Questions?

---

Submit a question using the chat box





# Lesson 3

---

## ***Value for Money Analysis***



# Definitions

## ■ Value for Money (VfM)

- The optimum combination of life cycle costs and quality of a good or service to meet the user's requirements
- Generally expressed as the dollar difference or % difference between present value of costs for P3 vs. present value of costs for conventional project delivery

## ■ VfM Analysis

- Quantitative analysis to compare the financial impacts of procurement alternatives for a project
- Financial analysis
- Impact on balance sheet of the procuring agency
- Other benefits (e.g., to users) considered in qualitative assessment

# Definitions (Cont.)

---

## ■ **Public Sector Comparator**

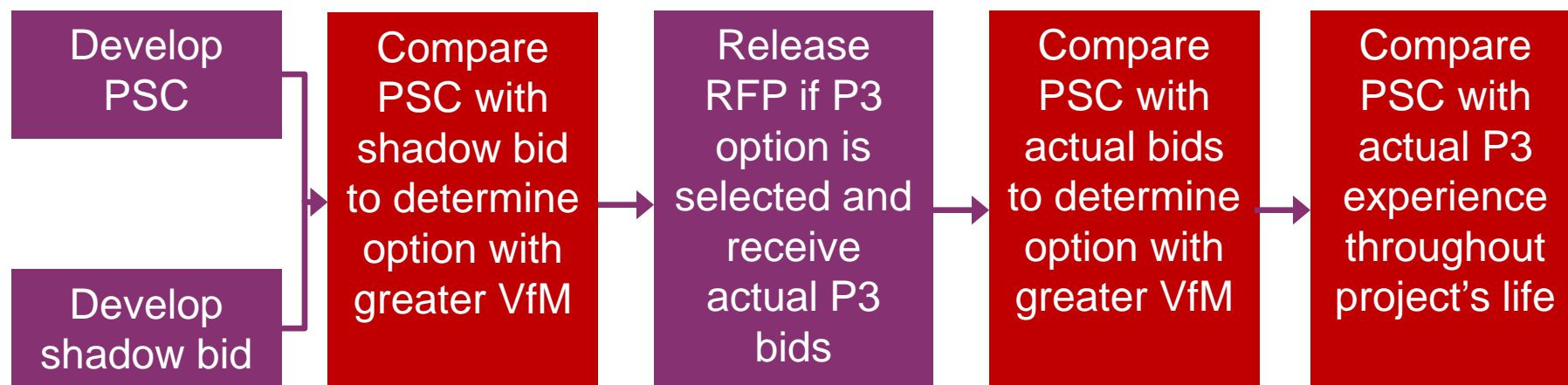
- Conventional procurement's baseline cost against which P3 option will be compared

## ■ **Shadow Bid**

- Cost of P3 option
- Includes estimated payments to private partner as well as other costs incurred by public sponsor

# Timing

- Agencies typically conduct VfM analyses once they decide to undertake a project and wish to assess delivery options





# Purpose of Value for Money Analysis

---

- Identify project suitability for P3 delivery
  - Quantify risks and determine value of private risk premium
- Answer the question: “Will P3 procurement provide greater value compared with conventional procurement?”
- Inform selection and negotiation process for a P3 project.
- Evaluate implemented P3 projects

# VfM Analytical Process

---

1. Identify potential procurement options
2. Identify, monetize and allocate project risks
3. Develop public sector comparator (PSC)
4. Develop P3 option (“shadow bid”)
5. Compare public sector comparator to P3 option
6. Consider qualitative factors (e.g., benefits to users from accelerated project delivery)

# 1. Identify Procurement Options

---

- **Conventional procurement options:**
  - Design-Bid-Build
  - Design-Build
  - Design-Build-Finance
  - Other (e.g., Contract manager at risk)



# 1. Identify Procurement Options (Cont.)

---

## ■ Common P3 procurement options:

- Design-Build-Finance-Operate-Maintain (DBFOM) with toll concession
- Design-Build-Finance-Operate-Maintain (DBFOM) with availability payments
- Design-Build-Finance-Operate-Maintain (DBFOM) with shadow tolls
- Other possibilities:
  - DBFO – South Bay Expressway, CA (original)
  - DBFM – Goethals Bridge, NYC

## 2. Risk Assessment and Allocation

---

- **Risk identification**

- All phases – design, construction, operation

- **Risk quantification**

- Probability of occurrence
- Range of cost and schedule impacts

- **Aggregate risk valuation**

- Formula-based
- Monte-Carlo simulation

- **Risk allocation**

- Transferrable to private sector
- Retained by public sector





### 3. Develop Public Sector Comparator

---

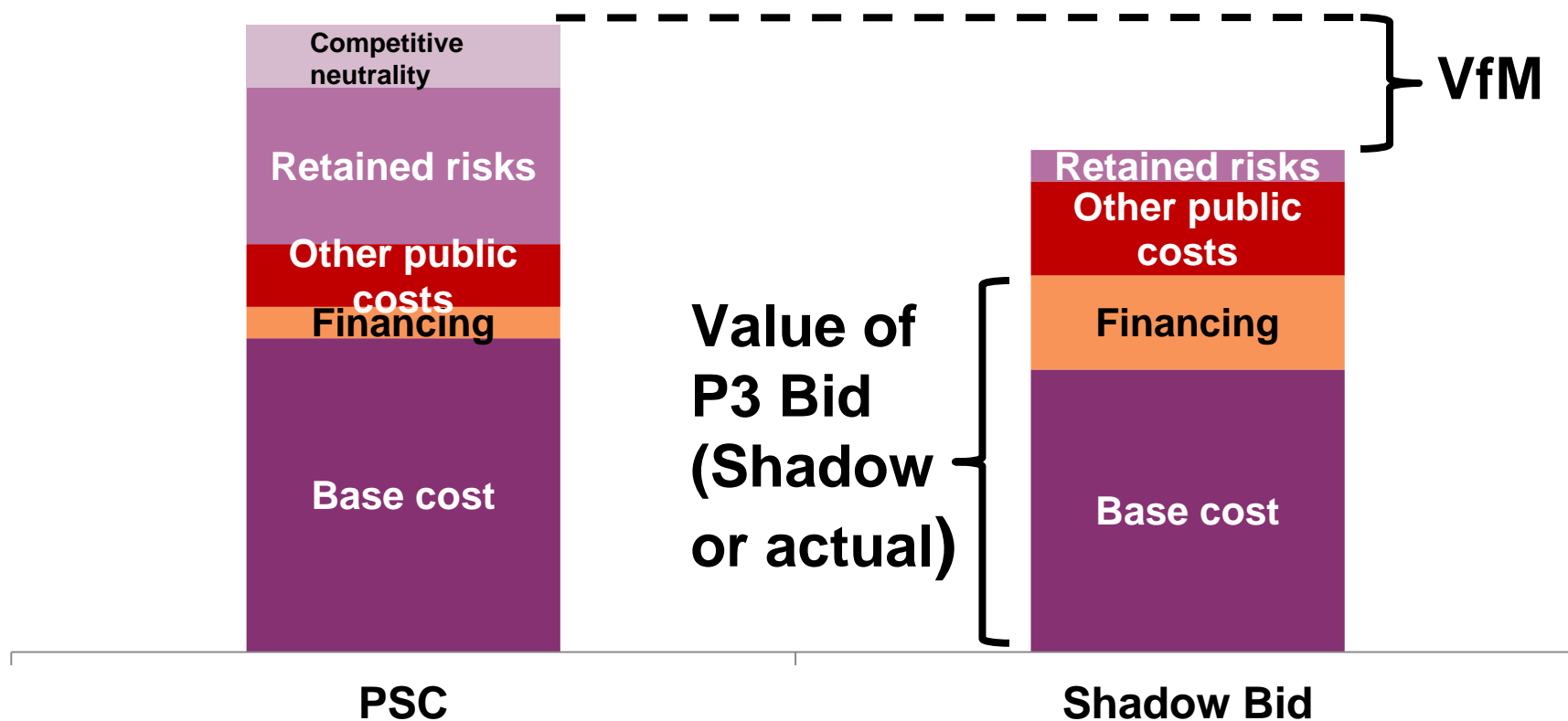
- Estimate the hypothetical, risk-adjusted cost of a project delivered through conventional approach:
  - Base costs (including financing)
  - Cost impacts of risks
  - Procurement and oversight costs
  - Competitive neutrality adjustments
- Assumes project can be completed to the same standards anticipated by P3 delivery
- Assumes same time frame, i.e., funding or financing issues will not delay conventional procurement

## 4. Develop a Shadow Bid

---

- Estimate the total costs *to the public agency* for delivering the same project as a P3
- Components include:
  - **P3 contract payment:** Amount that would be demanded by private sector to deliver the project based on its costs and desired rate of return
  - **Retained risks:** Value of risks retained by the public sector in P3 delivery structure
  - **Other project costs:** Costs incurred by the public agency to facilitate project delivery and oversight

# 5. Compare PSC with Shadow Bid



## 6. Qualitative Assessment

---

- Key consideration – Non-financial benefits, e.g., user benefits from accelerated project delivery
- Other considerations include:
  - **Viability:** Ability to formulate a sound contract
  - **Performance:** Opportunity for innovation
  - **Achievability:** Public agency's capabilities and those of the private sector

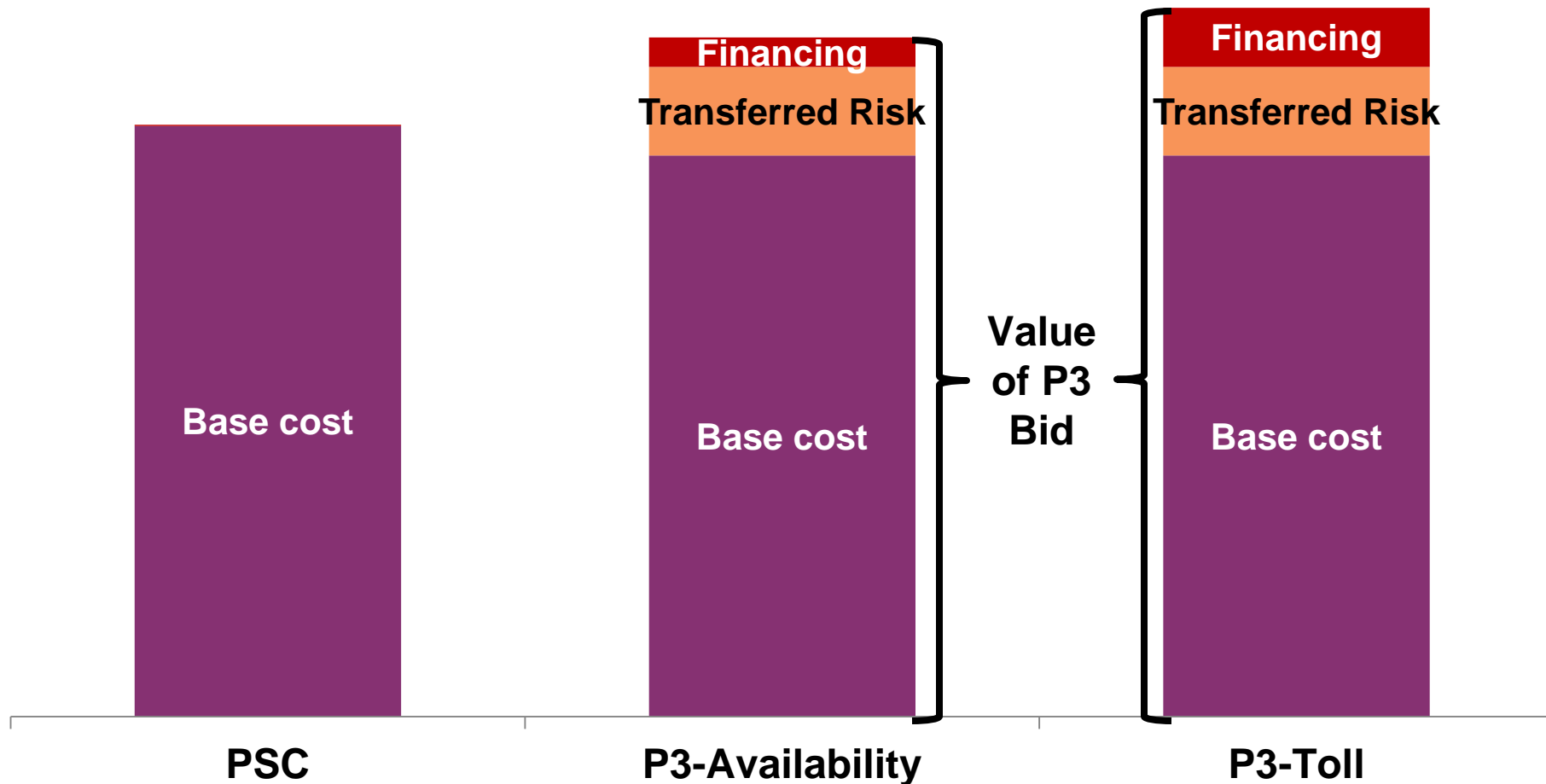
# Hypothetical Illustration

---

- Not real project data – only to illustrate process
- P3 options: (1) Availability payment (2) Toll
- Illustrative assumptions:
  - P3 options reduce life-cycle costs by 5 percent
  - Risks transferred to P3 concessionaire are managed at 25 percent lower cost
  - P3 concessionaire may increase toll revenue by 5 percent for toll concession
  - Future cash flows discounted using public sector borrowing rate

# 1. Estimate Initial Cost to Agency

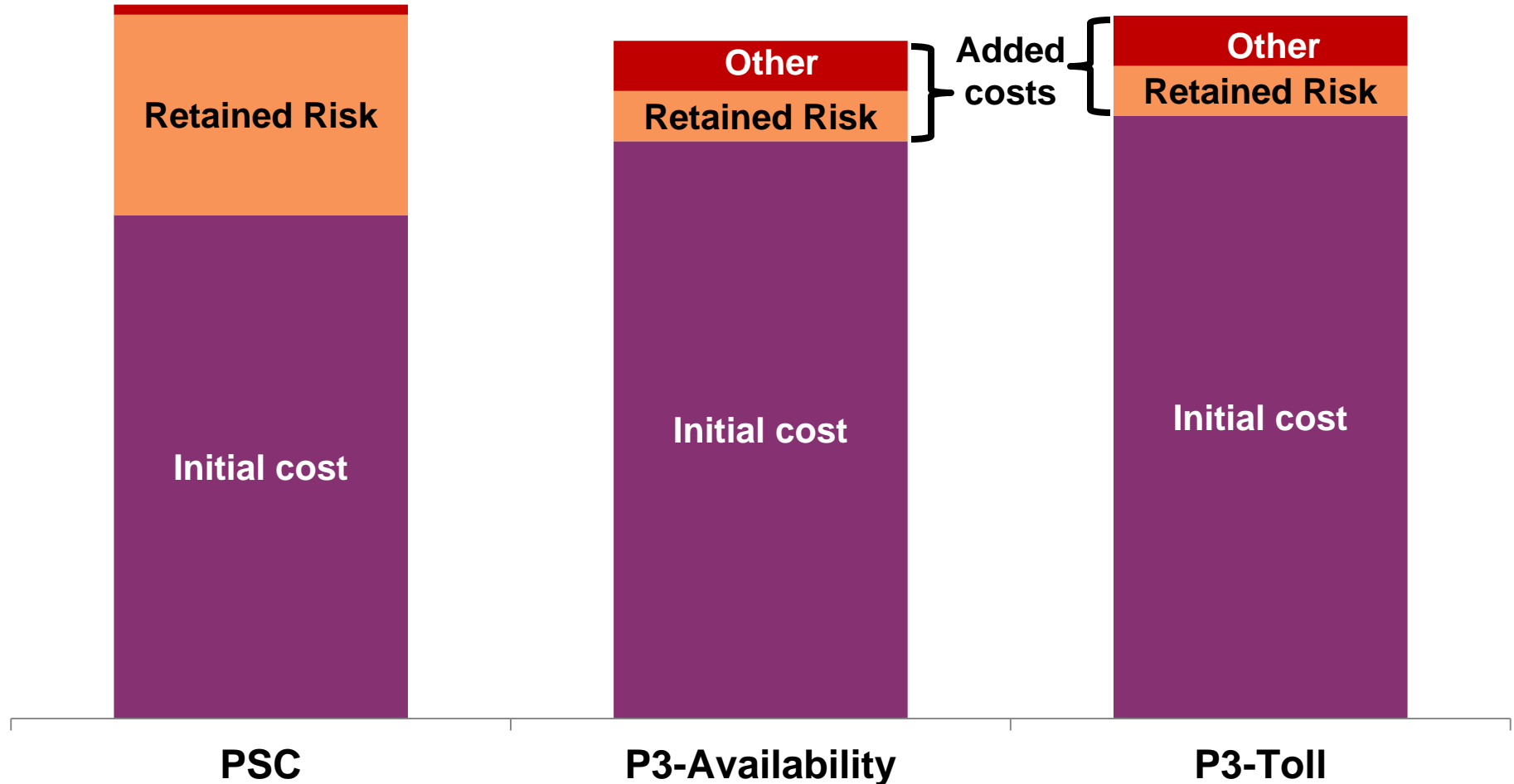
P3 costs may appear higher despite lower life cycle costs





## 2. Add Retained Risks & Other Costs

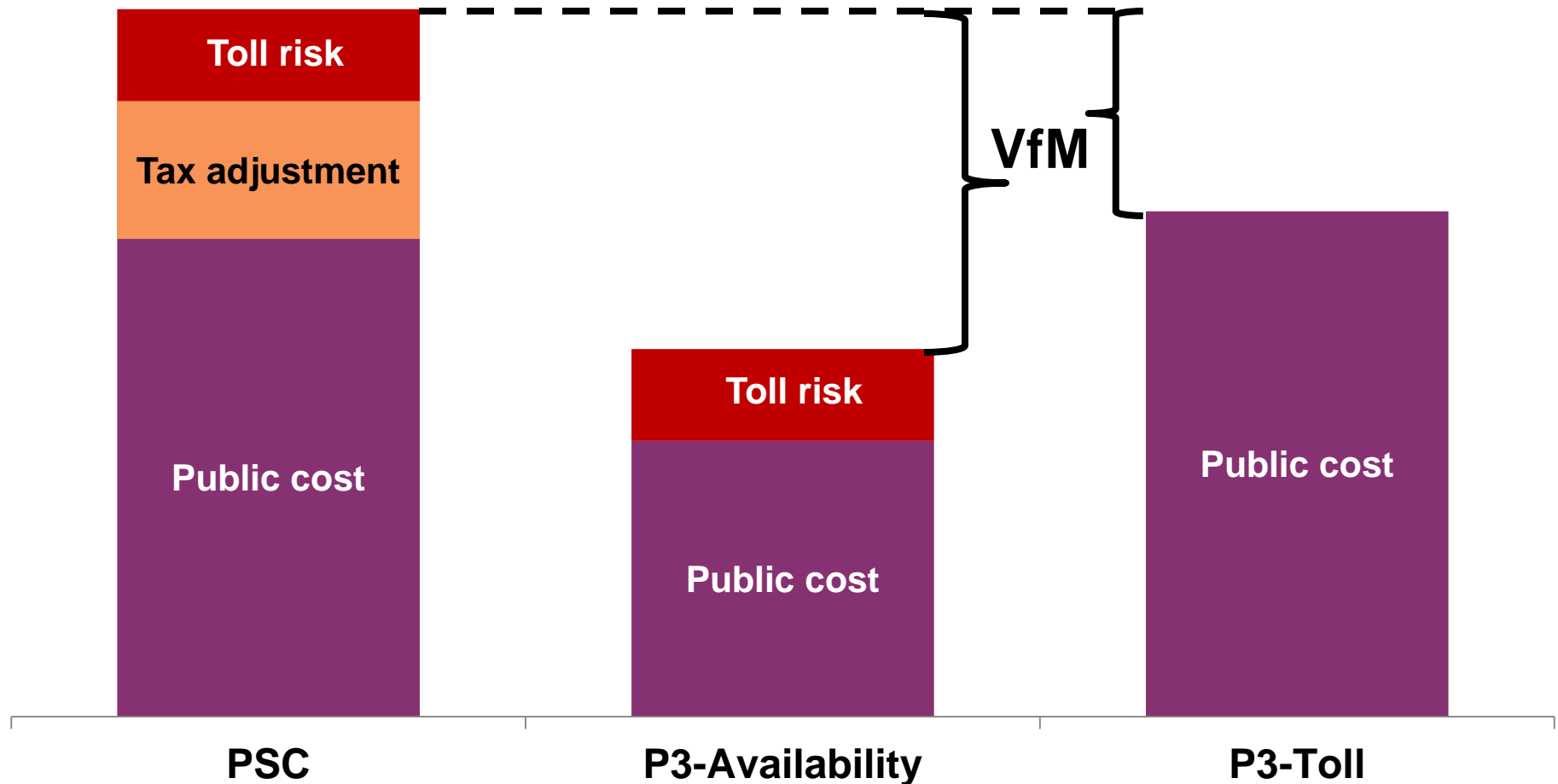
Retained risk in PSC may make it more costly than P3





### 3. Adjust for Competitive Neutrality

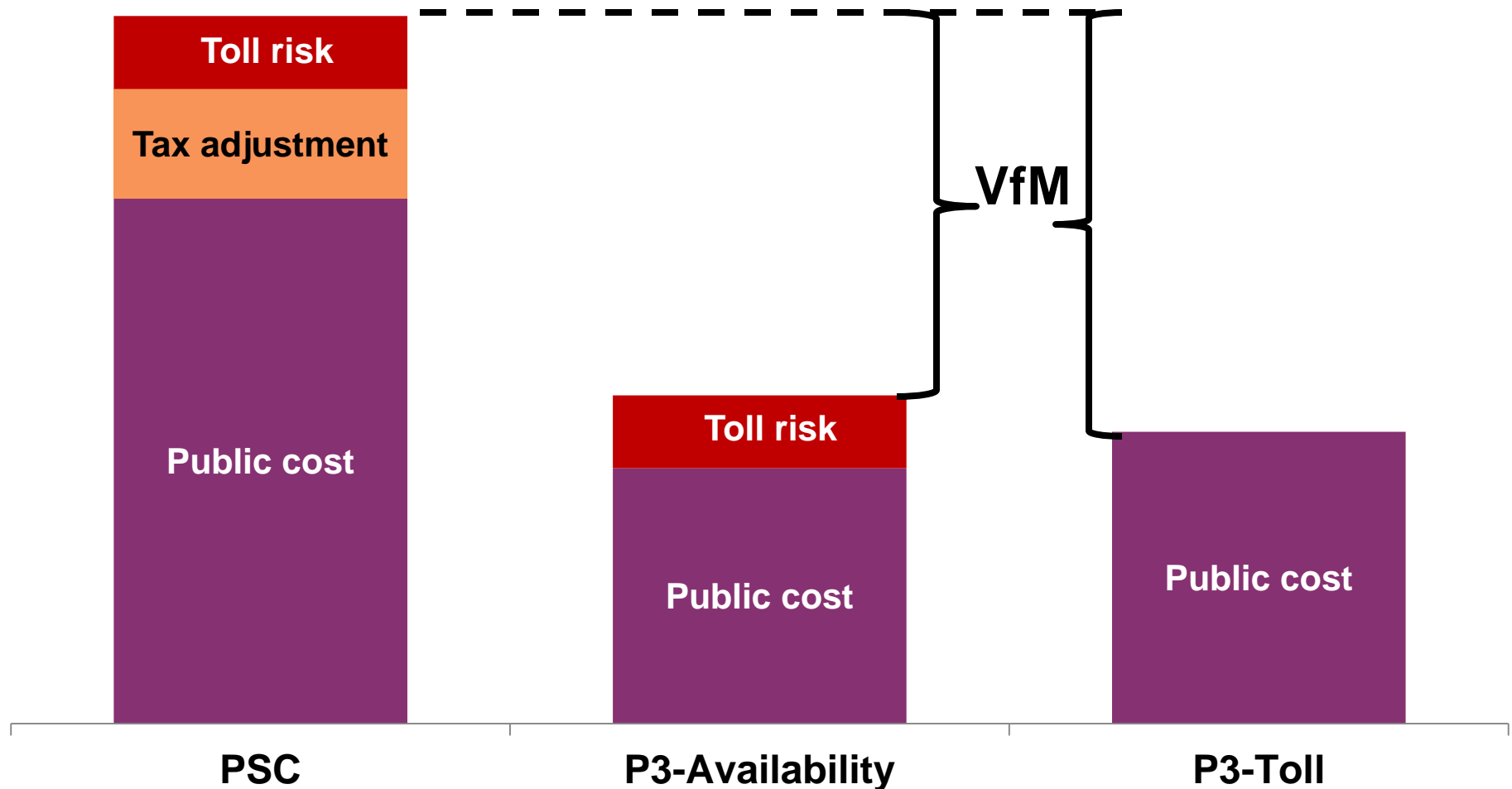
P3-Availability may have best VfM if toll revenue is same





## 4. Final Agency Cost Estimates

P3-Toll may have best VfM if it generates higher toll revenues



# VfM Analysis Limitations

---

- Analytical process to assess costs and risks is resource-intensive and may require outside expertise
- Analysis results are entirely dependent on the assumptions, especially regarding risk transfer
- Choice of discount rate can skew the results – extreme care is needed to ensure risk costs are not double-counted in the discount rate
- Does not answer the question: “Can the government agency afford the costs of delivering a project as a P3?”
- Does not quantitatively assess non-financial costs and benefits of a project (e.g., benefits of project acceleration)



# Test Your Knowledge

---

## True or False:

The PSC assumes that the project can be delivered and operated to the same quality as the P3 option.

## True or False:

If the Shadow Bid is lower than the PSC, then the project is affordable.

## True or False:

Highway user benefits are included in the cash flows estimated for VfM analysis.

# Questions?

---

Submit a question using the chat box





# Lesson 4

---

## ***FHWA's P3 Toolkit and P3-VALUE***



# FHWA's P3 Toolkit

---

- P3 Toolkit provides educational tools and guidance documents to enhance the capacity of public sector decision-makers to analyze procurement options
- Will address four key phases of P3 implementation:
  1. Legislation and policy
  2. Planning and evaluation
  3. Procurement
  4. Monitoring and oversight

# 1. Legislation and Policy

---

- *Public Policy Considerations in Public-Private Partnership (PPP) Arrangements*. Available at:  
[http://www.fhwa.dot.gov/ipd/pdfs/2009\\_public\\_policy\\_considerations\\_ppp\\_arrangements.pdf](http://www.fhwa.dot.gov/ipd/pdfs/2009_public_policy_considerations_ppp_arrangements.pdf)
- Addresses key issues to be considered in developing legislation and P3 agreements
- Working Draft of P3 Legislation available at:  
[http://www.fhwa.dot.gov/ipd/pdfs/legis\\_model\\_0610.pdf](http://www.fhwa.dot.gov/ipd/pdfs/legis_model_0610.pdf)

## 2. Evaluation

---

### **Resources include:**

- Orientation Guide
- Primers
- Evaluation Guidebooks
- P3-SCREEN: P3 Screening Tool
- P3-VALUE: A suite of educational tools and accompanying user guides



## 3. Procurement

---

- Model contracts – under development
- Best Practices Guidebook – under development



## 4. Oversight and Monitoring

---

- Best Practices Guidebook – under development

# What is P3-VALUE?

---

- A set of integrated analytical tools to help practitioners understand processes used to quantitatively evaluate procurement options
- Educates users so they can understand assumptions and results of analyses performed by experts
- Major component of FHWA's P3 Toolkit

# P3-VALUE Tools

---

- **Risk Assessment Tool**

- Identifies risks, risk allocation, mitigation strategies, potential cost and schedule impacts

- **Public Sector Comparator (PSC) Tool**

- Calculates risk-adjusted life cycle costs of conventional procurement

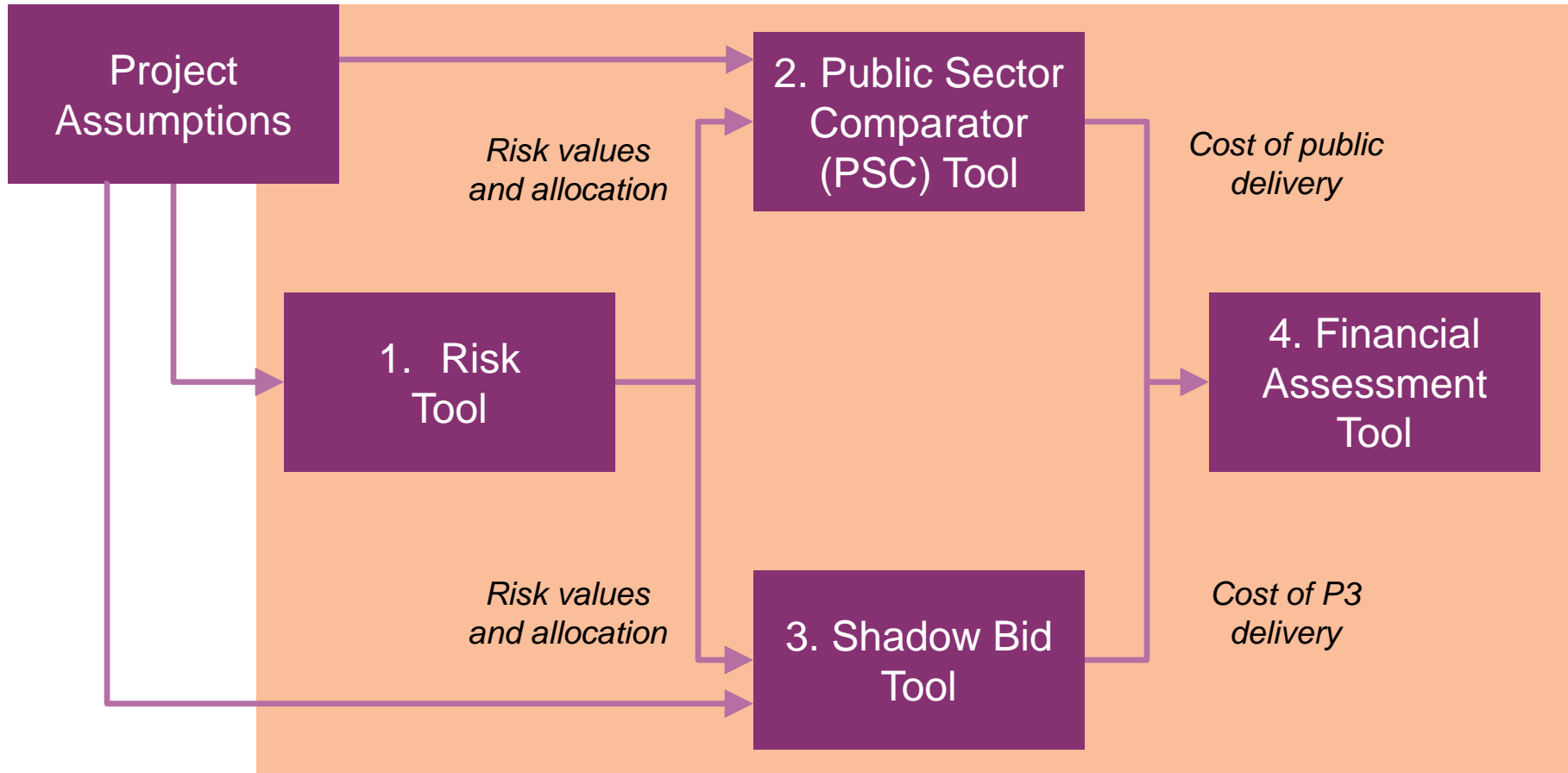
- **Shadow Bid Tool**

- Calculates costs of P3 procurement, including payments to private partner

- **Financial Assessment Tool**

- Compares PSC and Shadow Bid costs to calculate value for money

# P3-VALUE Structure



# P3-VALUE Limitations

---

- P3-VALUE is for educational purposes only and is not intended to guide decisions on actual projects
- Costs are based on user assumptions about the probability and consequences of risks
- No assessment of the non-financial benefits from accelerated project delivery
- Provide only a rudimentary measure of potential differences in financing costs
- Not applicable for brownfield or asset monetization P3s (i.e., P3s for existing revenue generating facilities)



# Test Your Knowledge

---

## True or False:

FHWA's P3 Toolkit will provide tools to cover four phases of P3 implementation.

## True or False:

P3-VALUE should not be used to evaluate actual projects.

## True or False:

P3-VALUE can provide estimates of non-financial benefits such as user benefits due to accelerated project delivery.

# Questions?

---

Submit a question using the chat box







# Course Summary

---



# Course Recap

---

<u>Lesson 1</u>	Overview of P3 Evaluation
<u>Lesson 2</u>	P3 Financial Evaluation
<u>Lesson 3</u>	Value for Money Analysis
<u>Lesson 4</u>	P3 Toolkit and P3-VALUE
<u>Summary</u>	



# Resources

---

## **IPD Website:**

<http://www.fhwa.dot.gov/ipd/>

## **P3 Website:**

<http://www.fhwa.dot.gov/ipd/p3/>

## **FHWA Value for Money Primer:**

[http://www.fhwa.dot.gov/ipd/p3/toolkit/guidance\\_documents/index.htm](http://www.fhwa.dot.gov/ipd/p3/toolkit/guidance_documents/index.htm)

## **FHWA Financial Assessment Primer:**

[http://www.fhwa.dot.gov/ipd/p3/toolkit/guidance\\_documents/index.htm](http://www.fhwa.dot.gov/ipd/p3/toolkit/guidance_documents/index.htm)

## **FHWA Economic Analysis Primer:**

<http://www.fhwa.dot.gov/infrastructure/asstmgmt/primer05.cfm>

## **P3-VALUE Website:**

[http://www.fhwa.dot.gov/ipd/p3/toolkit/analytical\\_tools/index.htm](http://www.fhwa.dot.gov/ipd/p3/toolkit/analytical_tools/index.htm)



# Upcoming P3-VALUE Training

---

- **June 13:** Project Risk Assessment 201
- **July 11:** Public Sector Comparator/Shadow Bid 201
- **August 7:** P3 Financial Assessment 201

*To register, please visit*

<http://www.nhi.fhwa.dot.gov/resources/webconference/eventcalendar.aspx>

# Contact Information

**Patrick DeCorla-Souza**

**P3 Program Manager**

**Office of Innovative Program Delivery**

Federal Highway Administration

(202) 366-4076

[Patrick.DeCorla-Souza@dot.gov](mailto:Patrick.DeCorla-Souza@dot.gov)



# Contact Information

**Thay N. Bishop, CPA, CTP**

**Senior Program Advisor/Capacity Builder**

**Office of Innovative Program Delivery**

Federal Highway Administration

(404) 562-3695

[Thay.Bishop@dot.gov](mailto:Thay.Bishop@dot.gov)

# Questions?

---

Submit a question using the chat box

